Testimony of the
American Road & Transportation Builders Association
John Wight, 2001 Chairman
Before the
House Transportation and Infrastructure Committee
Subcommittee on Highways and Transit
Roadway Work Zone Safety Issues Hearing
July 24, 2001

Introductory Remarks
Good morning, Mr. Chairman and members of the subcommittee. I am John Wight, 2001 chairman of the American Road & Transportation Builders Association (ARTBA), which is based here in Washington, D.C.

ARTBA, which will celebrate its 100th anniversary next year, has over 5,000 member firms and member public agencies from across the nation. The industry we represent generates more than $185 billion annually in U.S. economic activity and sustains 2.2 million American jobs.

At the outset, I would like to thank Chairman Petri for giving our industry an opportunity to testify at this important hearing. Work zone safety is of critical importance to our industry and the motoring public. We in the industry—the private sector, state departments of transportation and the federal government—collectively have a moral obligation to ensure that we are carrying out this work in the safest, most efficient manner possible.

ARTBA brings a unique perspective to this hearing. We are the only national organization that has as members all parties involved in the design, set-up and management of roadway construction work zones. The ARTBA membership includes local, state and federal transportation officials, contractors and planning and design firms. It also includes the major manufacturers and distributors of roadway safety appurtenances, signage and communications devices and heavy construction equipment.

ARTBA has been using this unique federation structure to address roadway work zone safety challenges in a comprehensive manner for decades. This has been a particular emphasis of our Transportation Safety Policy Advisory Council, organized in 1977, and our Traffic Safety Industry Membership Division, organized in 1979.

Roadway work zone safety is a complex, multi-faceted problem that, unfortunately, does not lend itself to single or simple answers. If it did, the problem would have been solved, because ARTBA and many government agencies and organizations at all levels have been seriously attacking this tragedy from many angles for literally decades. Without these efforts, the tragedy

would undoubtedly be even worse, given the continual increase in work zone exposures generated by increased traffic and construction activity conducted under traffic.

What has happened in recent years—thankfully—is that this tragedy is finally beginning to receive the visibility and public profile that it deserves—a profile that demands action. This is due in part to the momentum generated by initiation, development and subsequent marketing of the National Work Zone Safety Information Clearinghouse—a research, education and public awareness project mandated by this Committee in 1995 and initially funded by the federal government.

This hearing is significant. We share your hope and resolve that it will be a springboard for further progress in addressing a national tragedy.

Issue Background

Most motorists, construction managers and workers realize that roadway construction work zones are dangerous places. Workers who labor eight hours and more a day adjacent to speeding traffic understand that very clearly. Nevertheless, motorists and workers continue to die at alarming rates in roadway work zones. The most recent federal data show that 868 people died and 39,000 were injured in 1999. Those numbers demonstrate that nearly three people are killed every day. Approximately 120 of the annual fatalities are workers, who die at a rate of one every three days. Based upon data from the U.S. Department of Transportation, that trend appears to be on an increase. **(See figure 1.)** Unfortunately, many experts fear this data set is soft, due to a lack of nationwide uniformity in data collection in this area. The problem could be even worse that the reported data suggest.

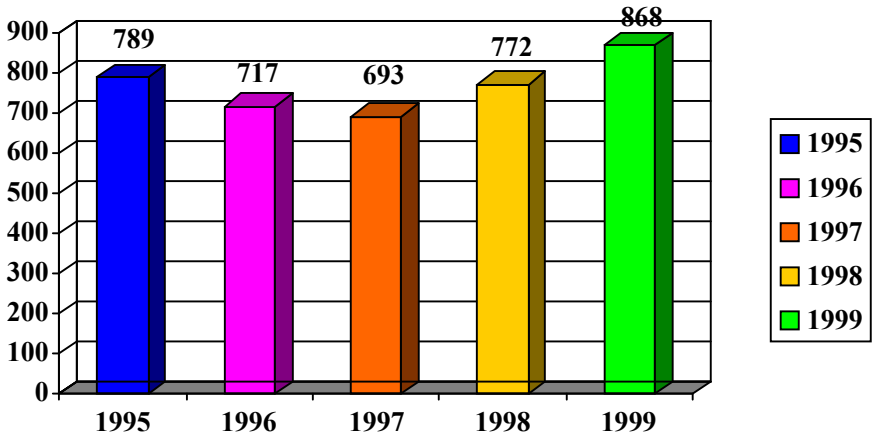


Figure 1—Roadway Construction Fatalities 1995 - 1999

For the convenience of the subcommittee, we have included a state-by-state breakdown of the figures from 1999. **(See figure 2.)** As an example, in 1999 there were 15 roadway construction work zone fatalities in Wisconsin and 20 in Pennsylvania.

The enactment of the Transportation Equity Act for the 21st Century (TEA-21) in 1998 created record-level funding for transportation improvement projects with well over $200 billion in scheduled improvements through 2003. As a result, ARTBA estimated a 66% increase in roadway work zones—which results in a commensurate increase in worker and motorist/trucker/pedestrian/biker exposure. The challenging aspect of this escalation in construction is that most of it will be done on existing roadways that will remain open to motorists during the construction phase. This "construction under use" situation creates hazards and safety conflicts for roadway contractors, workers and motorists.

1999 Work Zone Fatalities

(by Construction/Maintenance Zone)

Figure 2

State	Construction	Maintenance	Utility	Work Zone, Type Unknown	Total
Alabama	18	0	0	0	**18**
Alaska	1	0	0	0	**1**
Arizona	22	0	1	6	**29**
Arkansas	10	5	1	2	**18**
California	94	6	0	12	**112**
Colorado	10	1	0	0	**11**
Connecticut	3	2	0	0	**5**
Delaware	4	0	0	1	**5**
Florida	25	3	0	2	**30**
Georgia	86	7	2	0	**95**
Hawaii	2	0	0	0	**2**
Idaho	2	0	0	0	**2**
Illinois	16	1	0	0	**17**
Indiana	25	0	1	4	**30**
Iowa	17	1	0	0	**18**
Kansas	14	1	0	0	**15**
Kentucky	4	1	1	3	**9**
Louisiana	16	1	0	0	**17**
Maine	2	0	0	0	**2**
Maryland	1	3	0	7	**11**
Massachusetts	2	0	0	0	**2**
Michigan	7	1	1	1	**10**
Minnesota	3	1	0	0	**4**
Mississippi	11	0	0	0	**11**
Missouri	12	2	0	0	**14**
Montana	1	0	0	0	**1**
Nebraska	17	4	1	0	**22**
Nevada	7	12	0	0	**19**
New Jersey	4	1	0	0	**5**
New Mexico	8	1	0	0	**9**
New York	18	5	0	4	**27**
North Carolina	2	1	0	1	**4**
North Dakota	4	0	0	0	**4**
Ohio	18	1	0	0	**19**
Oklahoma	11	0	0	1	**12**
Oregon	6	2	1	0	**9**
Pennsylvania	17	3	0	0	**20**
South Carolina	5	0	0	0	**5**
South Dakota	4	1	0	0	**5**
Tennessee	38	1	0	4	**43**
Texas	127	0	1	0	**128**
Utah	6	0	0	0	**6**
Vermont	2	1	0	0	**3**
Virginia	5	2	0	1	**8**
Washington	3	1	0	1	**5**
West Virginia	3	0	0	0	**3**
Wisconsin	15	0	0	0	**15**
Wyoming	8	0	0	0	**8**
TOTAL	**736**	**72**	**10**	**50**	**868**

When people speak of safety in the roadway construction industry, the word “safety” can mean many different things, depending upon their perspective and experience. To date, principles of traffic safety and worker safety have often been treated separately—where traffic safety advocates and worker safety advocates have failed to “talk across the barricades” and understand how the activities of one group impact the safety and health of the other. This failure to communicate has resulted in unintended consequences where the actions of one group to promote safety for its constituency have sometimes created increased hazards for the constituents of the other. We are working closely with the National Institute for Occupational Safety and Health (NIOSH) to better understand and address at this problem.

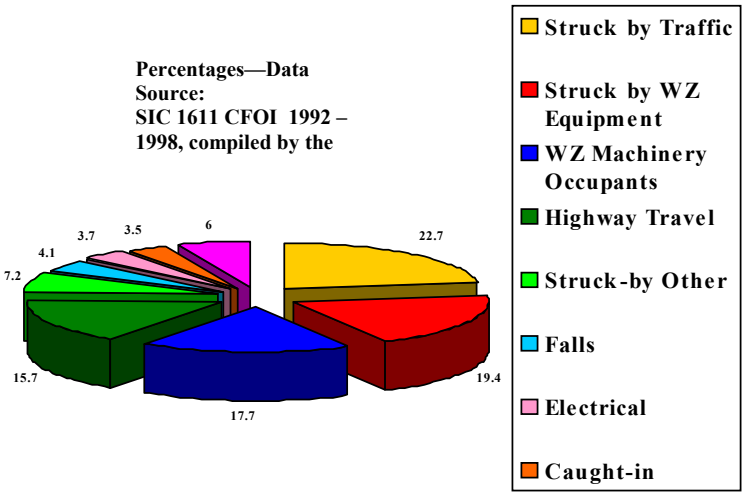
One reason for the competing safety interests lies in the fact that more parties are involved in roadway construction than other sectors of the construction industry. Unlike general construction, the user of the facility is not the owner—it is the motorist. As construction disrupts traffic, motorists often put great pressure on the government (the owner) to conduct work with minimal disruption. In turn, the government passes this mandate to the contractor. As a result, the contractor is required to conduct work in an atmosphere that is not always conducive to the safety of the workers.

Increasingly, government owners are placing greater restrictions on contractors regarding the timing and organization of roadway construction. Because the roads are in use, construction specifications and even traffic ordinances are being drafted and implemented to: 1) encourage work to be done more quickly; 2) minimize the size of the work zone; 3) work during evening and night-time hours; and 4) maintain normal traffic speeds for passing motorists.

While these requirements are helpful to minimize motorist inconvenience and improve traffic safety conditions, they adversely impact worker safety. Smaller work zones coupled with expedited schedules create hazardous conditions leading to the primary worker hazard *within* the work zone: “struck-by” incidents. Data from the Census of Fatal Occupational Injuries (CFOI) 1992 – 1998 show that 19 percent of worker deaths in the heavy and highway construction industry were caused when construction vehicles and equipment struck pedestrian workers. **(See figure 3.)** The only greater hazard is that posed by motorists who intrude past the barricades and strike workers, accounting for 23 percent of the fatalities. Recent data trends indicate the primary cause is shifting, with more workers being killed by construction vehicles and equipment than motorists.

Roadway Construction Worker Deaths

Figure 3



Large vehicles operating in confined areas, adjacent to pedestrian workers create situations that place workers at great risk for injuries and fatalities. Night work increases risks to workers because of impaired vision and fatigue, not only from motorists but also from the workers themselves. Moreover, workers are much less likely to be struck by a vehicle intruding the barricades when traffic moves by at 30 miles per hour (mph) as opposed to 65 mph.

These hazards are not created nor easily controlled by the contractor. The owner (e.g. the state department of transportation) and motorists impose many of these hazardous conditions upon the worker and contractor. As a result, the contractor alone is not always in the best position to implement changes to improve work zone safety. Work zone safety requires a broad, comprehensive approach to resolve the problem.

ARTBA Work Zone Safety Efforts

The American Road & Transportation Builders Association has been working with Congress and the Executive Branch to address this problem for many years. Fifteen years ago, ARTBA teamed with the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) to organize and conduct the first-ever National Conference on Roadway Work Zone Safety. This conference created a national dialogue and agenda to promote safety in the road construction industry.

In 1991 we worked with Congress to address roadway construction work zone safety in the Intermodal Surface Transportation Efficiency Act. Section 1051 of that Act required the U.S. Secretary of Transportation to develop and implement a national work zone safety program.

In 1992, a task force of ARTBA highway contractors began work with the CNA Commercial Insurance Company to develop the first-ever comprehensive business insurance product tailored to highway construction firm needs. The next year, ARTBA endorsed the resulting product and began a long-term relationship with CNA. For nearly a decade, this partnership has flourished and led to the development of ongoing worker safety programs and services.

In 1993, the ARTBA/CNA task force developed and published the first-ever comprehensive manual on safety topics tailored for highway construction firms. This pioneering project was ARTBA's first effort to wed principals of traffic safety with those related to worker safety – creating a comprehensive approach to construction work zone safety.

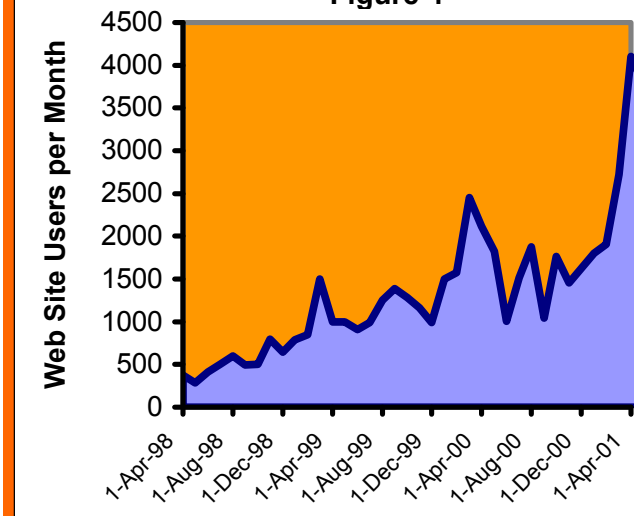
In 1994, ARTBA again teamed with FHWA, AASHTO and others produce a Second National Conference on Work Zone Safety. Important recommendations and initiatives also grew out of this conference. The recommendations are contained in a 173-page published proceedings report. The summary of this report is attached to my comments. (See Attachment A.) Several of our recommendations were included in Section 358 of the 1995 National Highway System Designation Act. In that Act, the U.S. Secretary of Transportation was instructed to use a variety of tools to increase safety in highway construction sites, including:

1. *Conducting conferences to explore new techniques and stimulate dialogue for improving work zone safety.*
2. *Establishing a national clearinghouse to assemble and disseminate, by electronic and other means, information relating to the improvement of work zone safety.*
3. *Conducting a national promotional campaign in cooperation with the States to provide timely, site-specific information to motorists when construction workers are actually present.*
4. *Encouraging the use of enforceable speed limits in work zones.*

5. *Developing training programs for work site designers and construction workers to promote safe work zone practices.*
6. *Encouraging the use of unit price bid items in contracts for traffic control devices and implementation of traffic control plans.*

We are pleased to report today that at least one of those recommendations has been successfully carried out with leadership and assistance from the U.S. Department of Transportation. In 1997, ARTBA teamed with FHWA to create the National Work Zone Safety Information Clearinghouse. During the first three years, the Clearinghouse was established and operated with the assistance of federal funds. Today it operates as a partnership between the ARTBA Transportation Development Foundation and the Texas Transportation Institute (TTI), supported by private funding. Major financial sponsors include AASHTO, ARTBA, TTI, the Laborers' International Union of North America (LIUNA), the CNA Commercial Insurance Company, the National Association of County Engineers and the International Municipal Signal Association. The Clearinghouse is now serving approximately 24,000 users each year, offering the most comprehensive resources and databases on work zone safety topics in the world. **(See figure 4.)** Its "online" Internet databases can be queried 24 hours a day, 7 days a week by anyone with access to the World Wide Web. (See attachment B.)

Figure 4

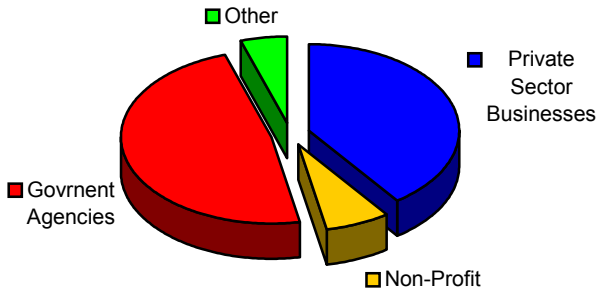


Staff researchers are also available for those without access to the Internet and for researching topics not included in the online databases. The Clearinghouse continues to provide its services at no cost.

The Clearinghouse is an excellent example of how the federal government and private industry can work together to address an important concern. The users of the Clearinghouse also reflect the public/private nature of this operation, which is equally used by the government and private sectors.

Given the proven benefits of the Clearinghouse and the growing need to publicize work zone safety practices, ARTBA would like to continue to grow its resources and raise awareness of the Clearinghouse's critical services by re-engaging the federal government in Clearinghouse operations. We would like to explore that opportunity during reauthorization of TEA-21.

Clearinghouse Usage



ARTBA appreciates the support of this Committee and its members in encouraging the U.S. Department of Transportation (U.S.

DOT) to continue to carry out Congress' mandates in cooperation with private industry. As you may recall, in October 1998 ARTBA and the National Safety Council (NSC) formed a strategic alliance to work together to promote work zone safety on a national level. We gratefully acknowledge the support of then-Chairman Shuster and Congressmen Oberstar, Rahall and you, Mr. Chairman, as demonstrated through your letter of July 12, 1999, encouraging the Secretary of Transportation to work with ARTBA and NSC on work zone safety initiatives. A copy of that letter is attached to our comments. (See Attachment C.)

ARTBA, NSC, AASHTO and the Laborers International Union of North America met with Secretary Slater in July 1999 with a proposal to work with U.S. DOT to carry out some of the mandates made by Congress in 1995. This broad cross-section of groups remains hopeful that our efforts to work with U.S. DOT will go forward.

The subcommittee should know that ARTBA and our partners have continued to work on the congressional mandates through private initiatives.

In 1999, ARTBA and NSC invited the Illinois Road Builders Association, the Occupational Safety and Health Administration (OSHA), organized labor, the Illinois Department of Transportation, Illinois State Police, and other local safety and training organizations to develop a model work zone safety partnership that could be replicated in other jurisdictions. The partnership contains provisions directly out of Congress' recommendations, including promoting dialogue on a local level among all parties concerned with roadway construction safety, effective communications with motorists encouraging safe driving behaviors and making them aware of construction projects, use of uniformed police officers to encourage compliance with speed limits, worker training programs, and model specifications or special provisions in U.S. DOT contracts designed to require implementation specific safety measures in covered projects.

We welcome the opportunity to work U.S. DOT to share the valuable information we learned in setting up the Illinois program with other jurisdictions. We feel this program is one that will go a long way towards improving coordination among the many groups involved in roadway construction and promoting safety. This approach is also being utilized in Wisconsin through the leadership of the our affiliate, the Wisconsin Transportation Builders Association.

ARTBA and the National Safety Council have also just released a safety-training program targeted directly at the roadway construction industry. This ground-breaking training program combines work zone traffic control practices with worker safety principles to assist roadway construction contractors create safe working environments for their workers, as well as passing motorists. This training program is now in the field and we are pleased to report that the CAN Commercial Insurance Company has agreed to help us promote and stage the course for their client contractors.

In line with another recommendation from the 1994 Work Zone Safety Conference and the 1995 Congressional mandates to the Secretary of Transportation, ARTBA continues to host national conferences on work zone safety. In September 2000 ARTBA hosted a Work Zone Safety Symposium in Savannah, Georgia, where leaders from national organizations[1] gathered to answer these questions:

[1] Speakers included: Stan Lanford, 1999 ARTBA Chairman and President of Lanford Brothers (Construction Company); Gerald Scannell, former OSHA Assistant Secretary and President of the National Safety Council; H. Berrien Zettler, Deputy Director of OSHA's Directorate of Construction; Rudolph Umbs of the Federal Highway Administration's Safety Core Business Unit; Shelly Row of the

1. *What are the most important roadway construction safety issues members of your organization face?*
2. *What goals has your group or organization developed to address these issues?*
3. *What are the primary impediments to achieving your goals?*
4. *Could your objectives be more easily achieved with cooperation from other industry segments or organizations?*
   a) *If yes, who could help you and how?*

As a result of the Symposium, the speakers' presentations, and input from other conference participants, ARTBA identified objectives for promoting better roadway work zone safety. Again, most of these recommendations are not new—they simply confirm that we are on the right track. You will find the recommendations a little later in my testimony. The Symposium's recommendations were shared with participants attending the recent meeting on work zone safety hosted by AGC.

In an effort to implement the Symposium and other, previous recommendations, in May of this year ARTBA, along with 17 other partners, convened an International Conference on Roadway Work Zone Safety. Two-hundred public officials, safety directors, and industry members joined us in St. Louis, Missouri, to discuss roadway work zone safety. The theme, "Safety on Both Sides of the Work Zone Barricades," explains ARTBA's approach to work zone safety over the past three years. The new NIOSH report, "*Building Safety Highway Work Zones: Measures to Prevent Worker Injuries from Vehicles and Equipment*" was released at our conference.

ARTBA recognizes that public awareness efforts are critical to help the public appreciate work zone dangers – both for themselves and the workers.

ARTBA created a radio ads that we have placed in major market stations during summer holidays. The ads have been shared with our state chapters for their placement in local media.

To create an real-world understanding of the problem, and to serve the workers in our industry, in October 1999 ARTBA created the Highway Workers Memorial Scholarship Program. This program, founded with a generous donation from two brothers and former ARTBA chairmen, Jack (1991) and Stan (1999) Lanford, provides scholarships for post-high school education to children of roadway construction workers who are killed or permanently disabled in the line of duty. A recent letter from Pennsylvania Secretary of Transportation Bradley Mallory attests to the utility of this program. (See Attachment D.)

In just two years of operation, the fund has provided scholarships to 10 students and is being supported by generous donations from contractors, labor organizations and individuals. Others are following this model.

Most recently, ARTBA and NSC developed a national awards program to recognize government and private organizations and media outlets at national, state, and local levels for their efforts to promote work zone safety through public awareness campaigns. Our first awards ceremony was held in conjunction with our St. Louis conference on work zone safety. The awards

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Federal Highway Administration's Operations Core Business Unit; Chip Sterndahl, President of the American Traffic Safety Services Association; Dan Shipp, President of the International Safety Equipment Association; Jim Melius, Director of Research for the Laborers Health and Safety Fund of North America; and David Fosbroke, Work Zone Safety Specialist, National Institute for Occupational Safety and Health.

program is intended to encourage all concerned parties to promote work zone safety to the public, and spotlight leading programs that others can emulate.

Other ARTBA State Chapter Initiatives
The subcommittee should also be aware of some of the award-winning activities in this area of ARTBA's state chapters that deserve national recognition and attention.

In an effort to increase worker safety in construction sites, two years ago the **Utility and Transportation Contractors Association (UTCA) of New Jersey** teamed up with the U.S. Occupational Safety & Health Administration (OSHA), the New Jersey State Police, New Jersey Department of Transportation (NJDOT) and the State Laborer's Union. The groups worked together to train 40 members of the New Jersey State Police Construction Unit to identify and eliminate potential safety hazards on highway construction projects. The UTCA program has become a model for other states.

With more than 20 fatalities and 3,000 accidents occurring each year in highway construction zones in Tennessee, two years ago the **Tennessee Road Builders Association** (TRBA) produced "The Other Side of the Barrel," a 10-minute video that is part of a statewide safety campaign to encourage safe driving in these sites. The award-winning video was added to Tennessee's drivers' education curriculum and reaches more than 25,000 students each year.

The **Carolinas Associated General Contractors** developed and widely published and widely distributed "A Sudden Change of Plans," an outstanding video to educate young drivers about the safety hazards of roadway construction zones.

More than 1,800 are injured and 50 people are killed every year on Pennsylvania highways. As a result, the **Pennsylvania Highway Information Association** (PHIA) two years ago launched a public relations campaign to draw motorist attention to road construction safety hazards. PHIA is communicating key safety messages to motorists through billboard advertising, television public service announcements, paid radio advertising and other promotional pieces. The association also distributed a work zone safety video to drivers' education instructors in all of Pennsylvania's 501 school districts.

These and many other programs are being carried out by ARTBA members on a state and local level.

RECOMMENDATIONS

To further answer the question of what Congress can do to improve roadway work zone safety, I would like to draw the committee's attention to ARTBA's publication, "*A Blueprint for Year 2003 Reauthorization of the Federal Surface Transportation Programs*." ARTBA began developing this document two years ago. It is the result of thousands of hours of work by ARTBA members who represent virtually every aspect of the roadway construction industry. This report was published in June of this year.

While there are many recommendations for improving roadway safety throughout the report, we have identified several specific recommendations for work zones. These recommendations are:

Require the use of unit bid pricing for safety items
To help ensure roadway construction work zones are as safe as possible, the use of unit bid pricing for safety items in all federally-funded road contracts should be required. Many

contractors want to do the “right thing” and set up the safest work zone feasible. Nevertheless, the increased safety measures cost money to buy, set-up properly and maintain. In the low bid contract award system used in the vast majority of roadway construction projects, the conscientious contractor is likely to be underbid by one who has less regard for worker and motorist safety. ARTBA recommends that model contract specifications, special orders, and unit pricing for safety items be developed and included in federally supported roadway construction contracts. This will level the playing field for those contractors who place a high priority on safety.

Improve operational safety in roadway construction work zones (including a mandated analysis of the safety implications of night-time construction)
With a relatively mature highway network in place, increasingly America’s highway construction improvements are being done under traffic conditions in off peak hours at night. This increases the risks to motorists and workers alike. ARTBA encourages maintaining the level of service and operation of the highway system in the safest possible manner and, specifically, supports utilizing positive separation on construction projects as warranted by operational speeds and the availability of right-of-way.

Congress should also mandate an analysis of the safety implications of night time roadway construction. We need to better understand the safety implications of increased night work. We need to quantify the risks derived from reduced visibility, substance impairment, fatigue, rotating shifts, and other concerns to be able to better balance the need for motorist convenience against worker safety and product quality.

The study should also address the impacts of such work on time of completion, quality and concerns of surrounding communities.

Promote use of federal funds
Current law, section 120(c) of Title 23, allows states to invest up to 10 percent of their apportioned federal highway funds in certain infrastructure safety activities without a state match. The TEA-21 reauthorization should further promote federal funds for work zone safety.

Increase federal involvement in work zone safety initiatives
ARTBA believes there should be continued federal emphasis and funding to improve roadway work zone safety through the implementation of a National Highway Work Zone Safety Program (NHWZSP) and financial support of the National Work Zone Safety Information Clearinghouse. The goal of the NHWZSP should be to develop technical information, best practices and outreach efforts that seek to improve the safety of roadway work zones for motorists, pedestrians, bicyclists and highway workers.

In addition to the recommendations contained in our TEA-21 Reauthorization Report, ARTBA has identified several other ways to improve safety in our nation’s work zones. These recommendations were developed in our Work Zone Safety Symposium last October, which I previously discussed.

The recommendations include:

Improve and facilitate cooperation and coordination between contractors, labor, state DOTs, law enforcement agencies and OSHA dealing with roadway work zones
This recommendation is the basis behind the model safety program we developed in Illinois. Essentially, the problem of work zone safety cannot be fully addressed by national initiatives

(though national leadership is necessary). Work zone safety must also be a priority at the local level, with cooperation of affected local parties.

Increase transportation construction industry awareness—public agency and private firms/association—of existing model programs and materials for building roadway work zone safety awareness

Much of this work is being done through the National Work Zone Safety Information Clearinghouse, Work Zone Awareness Week, the ARTBA-NSC Work Zone Safety Awareness Program, and other initiatives. More resources must be devoted to these efforts, however, if they are to positively impact and modify motorist and worker behavior in a more widespread manner.

Increase the use of new communications and safety technologies in the work zone

New technologies are increasingly available to improve work zone safety and mobility. These technologies range from motorist advisory methods to passive worker warning devices within the work zone. Investment is needed to move these technologies from the laboratory to the roadway.

Address work zone configuration problems and safety challenges in accommodating large truck traffic

The Federal Motor Carrier Safety Administration and FHWA have released statistics demonstrating a significantly higher ratio of motor carrier accidents in construction work zones, and a similarly disproportionate higher rate of fatalities in work zone intrusions when truck are involved. Public/private sector cooperation is needed to conduct more research so that we can understand the reasons for this problem and create outreach campaigns to the motor carrier community to help stem this disturbing statistic.

Promote consideration of work zone safety measures earlier in the planning stage

Safety programs, equipment, and traffic control devices can be an effective means to create efficiency and reduce costs in roadway construction if they are planned for and scheduled early in the planning process. These same measures can become very expensive, cumbersome and time consuming if they are done haphazardly or in a rushed manner. Considerations for worker and motorist safety should be thought through when planners and engineers are designing construction projects. Designers and engineers should consider entry, operation and exit routes for construction vehicles, space requirements for safe work practices and necessary safety equipment in conjunction with traffic control. State DOTs and local government should consult with outside parties such as OSHA, contractor associations, police and others at the design state to ensure that proper consideration in given to all the divergent needs. Early planning will streamline schedules and identify problems early on—before accidents and delays occur.

Conclusion

Mr. Chairman and members of the subcommittee, what I wish to emphasize today is that work zone safety is not a new problem or a new challenge. You realize that, of course, because over the past decade, this Committee has played a progressive leadership role in this area through ISTEA, the National Highway System Designation Act of 1995 and TEA-21. By and large, we know many ways to improve work zone safety. Many organizations, such as ARTBA, NSC, organized labor and others have worked for many years to resolve the problems. We have introduced and implemented many new and useful programs, but the battle is not over. We welcome and encourage other organizations to join us in our efforts, whether from the public or private sectors.

The recommendations and observations made by in my testimony are not new or “flashy.” Rather, they are derived from years of implementing programs and working to solve the problem. We have learned a lot over these many decades and we wish to share that experience with the committee, the roadway construction industry and the American public.

As we have noted in our testimony, there are many opportunities for industry to work with government to improve work zone safety. We look forward to continue working with Congress, as we have over the past three decades, to find better solutions to the problems and more organizations who are willing to join us in this fight.

We welcome newcomers to the “work zone safety” crusade and are pleased to see their enthusiasm.

There is much that is being done to promote work zone safety. Members of this committee have been intimately involved in a substantial amount of it. We must continue to find new and innovative ways to promote work zone safety, however, if we are truly going to curb the high-rate or worker and motorist fatalities in roadway work zone incidents. When all affected parties are able to coordinate a unified approach to safety, our industry will be better equipped to implement optimal work practices that effectively protect workers and motorists simultaneously.

We commend the Federal Highway Administration for forming several months ago a high-level government-industry task force to address work zone safety and mobility issues, which includes top leaders from ARTBA, NSC, AGC, ATSSA, organized labor and virtually all of the major national stakeholder organizations. We look forward to working with that group to continue to drive this issue. FHWA and AASHTO leadership in this area is critical.

Work zone safety is the ARTBA discussion and action topic for the annual executive session of the AASHTO-AGC-ARTBA Joint Committee, which convenes next month in Idaho. The ideas expressed at this hearing will ensure a productive result.

Again, Mr. Chairman, thank you for your leadership in this area. We appreciate the opportunity to share our thoughts and ideas with you on this critical issue.

That concludes my testimony. I would be happy to try to answer any questions you might have.

Attachment "A"

WORK ZONE SAFETY

Proceedings

National Conference on

WORK ZONE SAFETY

December 5-7, 1994

U.S. Department of Transportation
Federal Highway Administration

ARTBA

AASHTO

25 YEARS
ATSSA

Sponsored by:

Federal Highway Administration
American Road & Transportation Builders Association

Cosponsors:

American Association of State Highway & Transportation Officials
American Traffic Safety Services Association

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Workshop Proceedings (continued)

Concluding Remarks

EXECUTIVE SUMMARY

On December 5-7, 1994, the American Road and Transportation Builders Association (ARTBA) and the Federal Highway Administration (FHWA) hosted the National Conference on Work Zone Safety. Cosponsors of the event were the American Association of State Highway & Transportation Officials (AASHTO) and the American Traffic Safety Services Association (ATSSA). The Conference, held in Washington, D.C., was designed to explore ways in which the highway construction industry and Federal, State and local governments can reduce accidents and fatalities in work zones. In 1993, following a healthy two-year decline in work zone fatalities, deaths rose from 647 in 1992 to 762. This trend underscores the need to identify the causes of these accidents and develop means to counter them.

Attending the Conference were more than 200 people representing diverse safety areas, including educators, engineers, corporate and Government officials. The two-and-a-half-day agenda was designed to offer a broad perspective from several disciplines as to the contributing factors causing accidents in work zones and possible remedies. Dr. Nicholas J. Garber, Professor of Civil Engineering at the University of Virginia served as moderator for the Conference, which began with an official welcome and introductory remarks by officials of the sponsoring organizations: Anthony R. Kane, Acting Executive Director, FHWA; Kenneth R. Rezendes, Chairman, ARTBA; Francis B. Francois, Executive Director, AASHTO; and Robert M. Garrett, Executive Director, ATSSA.

To give participants a foundation for their discussions in their respective workshops, the first day of the Conference featured an address by Dr. Garber, who presented an overview of existing problems related to work zone safety.

Consultant Douglas J. Mace, President of Last Resource, Inc., then provided an overview of new arrow panel technology based on information obtained from an ongoing NCHRP study. Arrow panels are widely used in street and road construction zones to warn motorists of potential hazards and redirect traffic. Manufacturers have been working to resolve problems related to visibility, which has sometimes been adversely affected by the use of solar power and a lack of sufficient quality control in the manufacturing process. Recently, researchers have sought to identify optimum visibility standards (light intensity) and distances with specific goals in mind—e.g., to alert drivers or to provide recognition.

The final morning speaker, Michael Robinson, Highway Engineer, Office of Highway Safety at the Federal Highway Administration, described changes in the *Manual on Uniform Traffic Control Devices (MUTCD)*, specifically those which apply to Part VI, which deals with work zone issues. Part VI took effect in January 1994, with the States being allowed two years to implement the final rule. In addition to changes in nomenclature which appear in the revised Part VI (namely the use of "temporary traffic control zone" in place of "work zone" and "road work" to replace "road construction"), the MUTCD now contains provisions which did not appear previously. These apply to the following areas:

- Identification of the four components of a temporary traffic control zone (i.e., Advance Warning Area, Transition Area, Activity Area, and Termination Area).
- Specifications for sign placement, colors, and content to reduce risk to motorists, pedestrians, and workers in temporary traffic control zones.
- Requirements related to training, worker clothing, barriers, speed controls, enforcement personnel, lighting, special devices, public information, and road closure.
- Selection of proper traffic control devices and methods.

The luncheon address was presented by The Honorable Nick J. Rahall II (D-WV), former Chairman of the Surface Transportation Subcommittee of the House Transportation and Public Works Committee. Congressman Rahall offered his predictions of how the new Republican Majority in Congress will view special transportation projects that are often included in highway bills. Despite the possible shift in priorities and focus expected to emerge under the Republican leadership, the Congressman indicated that he expects "relatively smooth sailing" in the House for the National Highway System bill in 1995 and is hopeful that the Senate will follow suit.

During the afternoon, the participants separated into workshop groups that focused on five topics. The sessions were led by facilitators who guided the discussions. Each group spent the afternoon exploring specific issues related to work zone safety and concluded their session by listing their concerns and recommendations for enhancing the safety of those who drive through or work in temporary traffic control zones.

On the second day of the Conference, Joseph J. Lasek, Chief, Technical Development Branch Safety Office, FHWA, opened the morning session with a discussion of the National Work Zone Safety Program. Section 1051 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) requires the Secretary of Transportation to develop and implement a work zone safety program that will improve work zone safety at construction sites. Mr. Lasek explained that the three-year high for work zone fatalities between 1988 and 1990 and the spike in 1993 was a clear indication that development of such a program is vital if the number of accidents and deaths are to be reduced. Ultimately, a draft National Work Zone Program was developed, and it addresses issues related to (1) standardization and uniformity; (2) ensuring compliance (3) evaluation (information/feedback/direction); and (4) implementation of innovative technologies.

Comments on the draft program reflected widespread support for the FHWA effort to improve work zone safety. However, it was evident that the States' ability to follow the recommendations set forth by FHWA would be limited by the available resources. This underscores the need for cooperation among the Federal, State and local agencies to strengthen safety programs.

Attorney Douglas D. Wilson, of the firm Parvin, Wilson, Barnett and Guynn, PC, then addressed the Conference, noting recent developments in work zone safety as they relate to liability, litigation, and insurance issues. His report focused on four types of regulations and laws that impose liability on employers for work zone hazards that either harm, or have a potential to harm, persons on the work site: (1) Occupational Safety and Health Act; (2) workers compensation laws; (3) common law negligence; and (4) State safety statutes. Mr. Wilson explained that employers are subject to numerous Federal and State laws regarding the safety of their workers on construction sites, and courts have continued to expand upon potential liability for employers in this area. This makes it more important than ever for employers to comply with existing statutes and regulations to avoid injury and liability for injuries and/or unintentional violation of paperwork rules.

The morning session concluded with a discussion of Work Zone Accident Data Collection by James E. Bryden, P.E., Construction Safety Coordinator, New York Department of Transportation. Mr. Bryden underscored the necessity of agency commitment to the health and safety of employees, contractors, and the public. New York's management of this area is centered around three integrated components: engineering, enforcement, and public awareness. By refining its data collection mechanisms and requiring accurate reporting, the State has achieved a better understanding of the causes of accidents and how they might be prevented. This has enabled State officials to implement more effective traffic control measures and enforcement activities, although improvements are still needed.

During the afternoon, participants again separated into different workshop groups which focused on the same five topics addressed in the first afternoon sessions. At the plenary session on day three of the Conference, the workshop facilitators had an opportunity to report on the discussions in their groups over the previous two days.

PHILOSOPHY OF TRAFFIC CONTROL

Dr. Russell M. Lewis, a consulting engineer, and John B. Moran, Director of Occupational Safety and Health, Laborers Health and Safety Fund of North America, reported that their groups had explored several issues related to this topic: (1) The proper application of traffic control devices to guide motorists through work zones; (2) creative and flexible use of traffic control devices to attract motorists' attention; (3) dissemination of highway information to the motoring public; and (4) appropriate use of enforcement personnel to achieve greater safety of both motorists and work zone personnel.

Dr. Lewis noted that in work zones, where normally available safety factors are reduced, it is essential to communicate effectively with most drivers. Many accidents tend to be predictable, given the characteristics of the highway and the limitations of drivers. Driver behavior can be adversely impacted if motorists are annoyed, late,

lost, or otherwise surprised or inconvenienced; impatience and anger can affect judgment and performance, and variable traffic patterns can cause congestion, distraction, and confusion.

Driver performance, therefore, may be enhanced to a degree by minimizing delays, distractions, and inconvenience. Among the temporary traffic control principles and recommendations which emerged from the discussions in Dr. Lewis's and Mr. Moran's groups were the following:

1. Traffic control procedures should be based on road users' needs and characteristics. Reduced speed zoning should be avoided as much as practical.

2. Roadway occupancy and work completion time should be minimized to reduce exposure to potential hazards.

3. The results of a systems failure should be analyzed. The justification for using higher types of traffic control increases with the greater potential for catastrophic incidents.

4. Traffic control devices are effective only to the degree that (1) they are consistent with people's desires; (2) they are believed to be unduly hazardous if ignored; or (3) there is fear of enforcement. Consistency is needed with respect to uniform traffic control devices and standard procedures.

5. While Part VI of the MUTCD is generally regarded as "good," the Manual is primarily focused on the protection of the public rather than workers in work zones. Changes that reduce risks to one group must not increase risks to the other.

6. There is a need to reassess construction methods and designs from a safety perspective. Designs should address methods to provide construction vehicle access on other than the traffic-disturbed roadway. Physical separation between traffic and the work zone should be employed where possible, and work vehicles and equipment should look like work vehicles.

7. A shift in attitudes (on the part of both the public and governments) is needed as to how resources are allocated to work zone safety. Too often, it is only when a fatal event occurs that appropriate resources are provided to enhance safety.

8. Also needed is an understanding of measures that have been successfully applied to improve safety and a means for disseminating this information. It is recommended that a national clearinghouse be established for this purpose.

9. Credibility is seen as a major problem in traffic control. Therefore, signs and warnings must accurately reflect the situation in the work zone if driver performance is to be managed effectively. Drivers are most likely to utilize traffic control information when it appears to be reasonable, useful, and consistent with their expectations and experience.

10. Systems of communicating with drivers must be improved. The news media can be engaged as partners in apprising motorists of work zone activities and potential delays. Innovative approaches to provide real time information to motorists is needed to minimize frustration and delays.

12. Adequate enforcement measures should be employed, including the allocation of police and highway patrol personnel as appropriate.

13. Double points imposed on a driver's record for violations may have more impact on motorist behavior than double fines.

14. Education is key to improving safety for motorists and workers. Almost no State driver handbooks contain any information related to safe travel through work zones. The appropriate time to begin training drivers is in elementary school, to instill a safety mindset from childhood.

15. Training of workers is essential in any safety improvement effort. Accidents and fatalities involving workers in work zones are very high during the first year of employment and drop dramatically for several years thereafter. Early training, properly administered, can significantly reduce the number of accidents among the most vulnerable group.

16. Contract provisions should be reexamined and modified and incentives/disincentives considered as means of enhancing the safety of workers and motorists.

17. Relative risks should be evaluated, including risks of daytime vs. nighttime work, particularly in light of the increasing trend toward night work.

WORK ZONE SAFETY IMPLEMENTATION

The purpose of these workshops, conducted by Jon V. Jackels, Work Zone Safety Coordinator of the State of Minnesota Department of Transportation, and ATSSA Director of Education and Training Victor H. Liebe, was to identify for public and private agencies good practices that ensure quality work zone traffic controls are applied in all work zones. Mr. Jackels and Mr. Liebe reported the following recommendations from their sessions:

1. Key elements of all work zone traffic control and safety programs include appropriate standards and guidelines; technical training; state-of-the-art work zone traffic controls; and quality control.

2. Successful implementation of work zone traffic controls involves both operations (Traffic Control Plans, public awareness) and monitoring (accident data collection, law enforcement) components.

3. Maintaining quality work zone traffic control devices requires the commitment of all levels of management; qualified field personnel; and up-to-date project manager tools.

4. Categories of good practices to improve the application of quality work zone traffic controls include surveillance by the owners, project personnel, workers and inspectors; quality tools and procedures; law enforcement personnel with traffic control and safety awareness training; positive and negative incentives; development of a safety culture among both workers and the motoring public; improved quality assurance procedures, to including training and certification as well as formalized procedures; and a traffic management scheme with some flexibility built in.

5. More joint participation should be encouraged among Government agencies and jurisdictions, contractors, and associations.

6. A central clearinghouse of information has great potential as a resource for agencies, contractors, and planners.

7. Pre-qualification of contractors should be encouraged.

8. More frequent inspections and better follow-up mechanisms could enhance work zone safety.

9. Future revisions of the MUTCD should be more user-friendly and more understandable, and cover areas not now included. More input from municipalities to supplement information provided by State and Federal agencies could make the Manual more balanced.

10. The MUCTD (or an organization such as AASHTO) should provide more guidance on how to develop a good Traffic Control Plan in an easily understood form. Current design handbooks are written for engineers and are not user-friendly for other principals involved in planning.

11. Greater public awareness of work zone safety issues can be achieved through education programs and media involvement.

CONTRACTORS CONSTRUCTION MANAGEMENT

The co-facilitators of this workshop were Robert Attaway, Highway Program Director, Institute for Transportation Research and Education, North Carolina State University, and Joseph R. Julian, President of James Julian, Inc. Their groups addressed the need for proper safety training of work zone personnel. Partnering was seen by both groups they led as the other key to achieving effective construction management. During the two sessions, the recommendations that emerged fell into four broad categories:

1. **Training.** The groups agreed that training should be a universal requirement for those who work in temporary traffic control zones. Moreover, training should be uniform from State to State, project to project (especially for flaggers) and readily available. It is less certain whether certification in particular areas (such as flaggers) is desirable, but it could be used to designate completion of training, rather than level of competence achieved.

2. **Partnering.** Partnering is a concept which, when approached properly, results in a level of flexibility necessary to make course adjustments during a project without violating the terms of the contract. In some States, the process has been quite successful; in others, it has had mixed reviews. However, most participants believe it has great potential for improving conditions in work zones that have an impact on the safety of both the motorist and the worker, and therefore should be encouraged.

3. **Lump Sum vs. Unit Pricing.** Each of these two methods for paying for traffic control items and personnel has proponents. The general consensus was that each is appropriate in certain circumstances. Innovation is called for in lump sum situations, particularly in the event of resequencing, where the lump sum would have to be renegotiated to reflect the resequencing. On the other hand, pre-set items, such as flaggers, can be very hard to plan and could exceed the anticipated quantity. In such cases, unit pricing could be the best option. The group recommended that planners take into account such issues, as well as the legal nuances in given jurisdictions, to achieve the appropriate balance between the two.

4. **Incentives and Disincentives.** The workshop groups concluded that there are too few incentives under the current system. One area in which they have proved effective is lane or interchange rentals, wherein the contractor is charged a specific amount for shutting down an interchange or lane if he exceeds the time allotted for completion of his project. Incentives can also be useful where it is important that a project be completed quickly or as a means of rewarding superior performance. It is suggested that criteria be developed for assigning value to superior performance on traffic zone safety, to be used as a measure to evaluate appropriate rewards.

INTERACTION WITH PUBLIC HIGHWAY USERS

These workshops, chaired by Maj. Thomas H. Milldebrandt, Criminal Justice/Traffic Law Enforcement Consultant, and Jerry E. Graham, P.E., President, Graham-Migletz Enterprises, Inc., addressed enforcement and speed control issues, and the need for public education programs to better inform motorists of the hazards of work zones. The recommendations that emerged from their discussions included the following:

1. The appropriate enforcement agencies should be involved in the formulation of the Traffic Control Plan rather than merely instructed in how they are expected to participate.

2. Police administrators must be sold on the importance of work zone traffic control and sufficient manpower to their total police mission.

3. Off-duty officers should be used where appropriate to provide a police presence and encourage motorists' compliance with work zone speed limits and controls. Funding through legislation should be considered for this purpose if necessary.

4. Enforcement personnel should be trained in the provisions of Chapter VI of the MUTCD in general and the current Traffic Control Plan in particular.

5. Law enforcement agencies should have the authority to cite those responsible for implementing and maintaining the Traffic Control Plan when they do not comply.

6. Public education programs should be developed and geared for various segments of society, including older drivers, children, contractors, construction workers, highway officials, police and others.

7. Driver awareness of work zone safety issues could be enhanced with greater exposure through driver handbooks and licensing tests.

8. The press and other media, including direct mail, should be used as tools to disseminate information and enhance public awareness of safety issues and concerns. Again, appropriate funding through legislation should be considered for this purpose.

The participants noted that enforcement is not, however, a panacea for poor traffic control practices. Rather, it should be planned for and accommodated under Traffic Control Plans.

ADVANCED TECHNOLOGIES

These workshops were conducted by Dr. Ray Benekohal, Associate Professor of Civil Engineering, University of Illlinois at Urbana-Champaign, and Dr. H. Gene Hawkins, Jr., who is an Associate Research Engineer and Program Manager with the Texas Transportation Institute of the Texas A&M University System. Their groups addressed means by which recent developments and emerging technologies can improve work zone safety for both motorists and workers. This subject is especially important at a time when night work is preferred for the convenience of motorists and to minimize workers' exposure to hazards posed by drivers. Recommendations from the discussions included the following:

1. Technological advances should be aimed at protecting both workers and drivers.
2. New products and technologies are needed to facilitate:
   - more accurate information to travelers (e.g., rerouting, etc.)
   - real-time information (e.g., travel times, delays)
   - credible messages
   - more active traffic control devices rather than the current passive TCDs
   - reduction of the duration of work zones.
3. Future traffic safety devices should enhance visibility and lighting, improve delineation of work space, and reduce distraction to drivers.
4. Guidelines for reflectance standards should be developed, and the development and evaluation of new retroreflective materials should be encouraged.
5. The development of computerized work zone data collection devices, including hardware and software that could track comprehensive accident data, should be encouraged. In addition, the procedures by which new technologies and devices are brought into practice should be streamlined.
6. A new category of funding for testing or development of new TCDs should be established. The ISTEA program should be revised to require a work zone safety management system.
7. Industry should develop and improve driver information technologies, using heads-up displays, radio, and changeable message signs.
8. There is a need for implementation procedures that can respond to advancing technologies, perhaps through specific user services (e.g., work alarms, vehicle positioning, driver information, and incident and congestion management).
9. Uniformity of systems is desirable, and may be achieved through the establishment of a national clearinghouse.
10. Automated vehicle control technologies for work zones have potential for ensuring speed compliance in work zones of the future. Such technologies could also be used to provide advance information of which the driver should be aware.
11. Economic incentives should be provided to encourage contractors to adopt technologies that can improve safety and to comply with existing standards.

CONCLUDING REMARKS

The Conference moderator, Dr. Nicholas J. Garber, noted that while numerous recommendations were developed in the workshops, they could be condensed into a few major themes:

1. **User characteristics.** Research in this area is needed to identify the characteristics of the people who are involved in problem areas, both drivers and pedestrians. Both groups must be educated as to the hazards of negotiating work zones and how to successfully get through these areas.

2. **Incentives.** Both positive and negative incentives can be useful tools in achieving the desired performance on the part of the contractor.

3. **Reducing exposure.** To the extent possible, the length of time motorists spend in work zones should be minimized.

4. **Speed management.** Rather than setting arbitrary speed limits that drivers often ignore, we should identify the correct speeds for work zones and the means of bringing the drivers to comply with reduced speed limits established in those zones.

5. **Partnering.** This concept has numerous applications, particularly in arriving at the appropriate means of paying for work zone traffic control and in reducing exposure by reducing the length of contractor activities.

6. **Separating traffic.** Current systems do not allow the separation of traffic in terms of speed and volume, but means of doing so should be explored.

7. **Advanced technologies.** Real time traffic control devices can offer motorists up-to-the-minute information and limit the frustration, delays, and unwelcome surprises that cause accidents. Advanced technologies also should be used to facilitate data collection in work zones.

8. **National clearinghouse.** Cooperative efforts among the Conference's sponsoring organizations and others are needed, particularly in the development of a national clearinghouse, whereby information can be disseminated more efficiently to interested jurisdictions and agencies.

9. **Regional conferences**, similar to this one, could be very useful in addressing these and other issues and in developing workable solutions.

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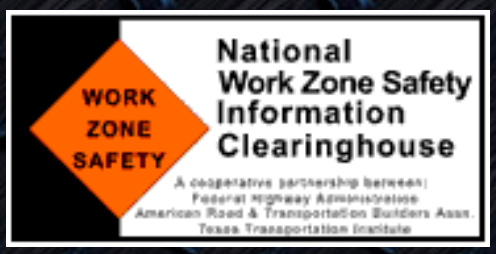

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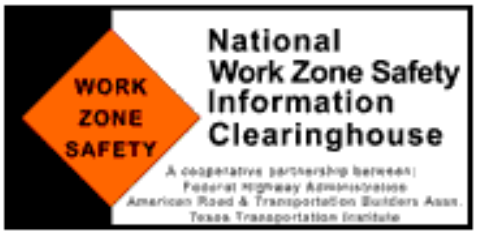

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Webmaster

Attachment "C"

Committee on Transportation and Infrastructure

Congress of the United States
House of Representatives
Washington, DC 20515

Bud Shuster
Chairman

Jack Schenendorf, Chief of Staff
Michael Stranche, Deputy Chief of Staff

James L. Oberstar
Ranking Democratic Member

David Heymsfeld, Democratic Chief of Staff

July 12. 1999

The Honorable Rodney E. Slater
Secretary
U.S. Department of Transportation
400 Seventh Street SW
Washington, D.C. 20590

Dear Mr. Secretary:

On June 9, you joined with us in celebrating the one-year anniversary of the signing of TEA 21. At that event, you helped us to underscore the responsibility that we have to increase the safety of roadside work zones in the face of unprecedented infrastructure improvements to our nation's highways. Clearly, Congress and the Administration share this commitment to this important issue.

Each new roadway work zone exposes the motoring public, pedestrians and construction workers to potential safety hazards. Thus an increased emphasis on roadway construction site safety is critical to preventing an increase in deaths and injuries as the number of work sites expands under TEA 21. We believe that public-private partnerships are needed to address this serious concern.

We applaud your personal interest and leadership in transportation safety. We are also encouraged that organizations in private industry are showing leadership by "stepping up to the plate" and developing innovative programs to promote safety in work zones.

We met recently with representatives of the American Road & Transportation Builders Association (ARTBA) to review ideas they have developed in partnership with the National Safety Council (NSC) for implementing a multi-faceted, national approach to highway work zone safety. Their proposal includes components on worker training, public education and development and dissemination of "best practice" guidance to industry and state and local governments. The proposal is modeled after the successful national seat belt safety campaign. ARTBA and the NSC supported these proposals along with representatives of organized labor and the American Association of State Highway and Transportation Officials. All parties are interested in joining with ARTBA

and the NSC in this critical area. Preliminary discussions have also been held with Federal Highway Administration staff.

We believe the ARTBA-NSC approach has great merit. We encourage you to give it your personal consideration and explore how the Department can work with and provide the necessary support, financial or otherwise, for the proposed safety and education programs. With a new construction season upon us, it is imperative that we move forward in a timely manner.

Sincerely,

BUD SHUSTER
Chairman
Committee on
Transportation and Infrastructure

JAMES L. OBERSTAR
Ranking Democrat
Committee on
Transportation and Infrastructure

THOMAS PETRI
Chairman
Subcommittee on
Ground Transportation

NICK RAHALL, II
Ranking Democrat
Subcommittee on
Ground Transportation

Attachment "D"

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
HARRISBURG, PENNSYLVANIA 17120

OFFICE OF
SECRETARY OF TRANSPORTATION

July 2, 2001

Mr. John W. Wight, Chairman
The American Road and Transportation Builders Association
The ARTBA building
1010 Massachusetts Ave., N.W.
Washington, DC 20001

Dear Sir,

I would like to take this opportunity to sincerely thank you for establishing the ARTBA-TDF's Highway Worker Memorial Scholarship Program. This scholarship program helps to recognize our PENNDOT workforce who risk their lives every day on the roadway, and the children and loved ones of the workers who are survivors to those fallen in the line of duty.

The idea of putting a human face on the tragedy of the roadway work zone crash is critical to promoting driver responsibility and improving highway safety. Amy L. Snyder of Columbia, Pennsylvania is a recipient of your 2001 scholarship fund, receiving $2,500. I am sure that Amy and her family and friends will never forget that you have thought to care for her, as her father would have, with this generous amount of money. The employees at PENNDOT thank you and I am sure that Amy's father, Heiland Goldsborough, would be very proud.

Again, we are very grateful for your thoughtfulness and generosity to those lost and surviving. We are with you in driving home the message – we must improve work zone safety and safe guard our employees.

Thank you.

Sincerely,

Bradley L. Mallory
Secretary of Transportation